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THE JOURNAL OF PHILOSOPHY

CAUSATION: AN EPISODE IN THE HISTORY OF THOUGHT

THE present situation in science and philosophy is extraordinarily interesting by reason of the diversity of views and beliefs upon the subject of causation. It may help somewhat to clarify this situation if we will briefly review the varieties of positions now current and their genesis.

There is among us a large group of persons who give allegiance to essentially animistic beliefs and conceptions. To them every occurrence is to be interpreted as the outward and visible sign of a supernatural agent who exercises a control over events which may, by appropriate means, often be influenced or changed. This animistic tradition is to be found not only among the religious groups, but also in many philosophers and some scientists who leave their scientific methods and techniques in the laboratory when they contemplate the rest of the world and man.

It is fairly well agreed that these animistic conceptions of the universe are probably the matrix of all our cosmologies and science. They are to be found in luxuriance among so-called primitive peoples to-day, where they appear in all important social activities and much of the material culture. Among peoples of Western European culture they may be regarded as survivals of an earlier culture which has been progressively superseded by what we call the scientific tradition.

This is not the occasion for tracing the successive steps in the displacement of animism by science, first through metaphysical speculations and then through the rise of mechanics, especially celestial mechanics.[1] What we need to observe here is that the concept of causation arises as a definite challenge to the notions of animism and to metaphysical conceptions of an underlying reality obscured by illusory appearances. It is essentially an acceptance of the world of events in terms of actual occurrences to be viewed as sequentially related, with an antecedent cause and a consequent effect. This acceptance of the conception of cause and effect is more than a mere assent to a concept or belief; it is a methodological principle which imposes upon its believers the obligation to doubt

[1] Cf. W. T. Bush, "Emancipation of Intelligence," this JOURNAL, Volume VIII (1911), pp. 169–180. See also the writer's paper, "The Development of Science," this JOURNAL, Volume XXI (1924), pp. 5–25.

any explanation or theory of non-causal events and to seek diligently for the causal relation and antecedent cause.

It is to be noted here that the causal principle found its strongest supporters among those who were concerned with the field of mechanics, astronomy, and what we now call physics. Rigorously pursuing their investigation of celestial events and of mechanical processes as varieties of causal phenomena, these earlier students achieved an amazing success in their work and thereby established the pattern of mechanical investigation and of causal thinking as the essential characteristic of scientific work.

The gradual acceptance of the principle of causation may be traced through the past three hundred years of scientific endeavor, as individual investigators in various fields adopt the view of sequential events and begin seeking for the determining cause of the particular events they are studying. The history of these developments has been traced by numerous writers to whom the reader may go for details (notably Whitehead's *Science and the Modern World*). What we are concerned with here is to point out the curious state of affairs today among scientific workers who are in every stage of acceptance and rejection of the principle of causation. The confusion and ambiguity arising from this condition is of far-reaching significance and merits rather serious consideration.

As suggested above, the principle of causation has appealed to scientific workers as a platform of protest against animism in all its phases (e.g., vitalism) and as a program for specific research. It is therefore of interest to see how the various sciences have embraced causation, beginning with astronomy, physics, chemistry, and then later biology and the social sciences. In each case there has been a fairly definite repudiation of older conceptions and beliefs and an appeal to scientific principles (i.e., causation) as individual investigators have been caught in the diffusion of this ever-widening movement. We can see this process of conversion, with an accompaniment of almost fierce evangelism, taking place to-day in certain fields of biology, in psychology, and in political science, economics, and sociology, where the new converts regard themselves as the apostles of *real* science and the leaders of a new movement.

While this process of change is taking place in the biological and social sciences, we may observe the extraordinary spectacle of an explicit and vigorous denial of causation issuing from the sciences which were the original leaders in the creation and use of the conception of causation. Unless the layman is egregiously misled by recent pronouncements of scientific workers in the field of the physical sciences, the principle of causation, at least in its earlier and naïve form, is now being relinquished as an instance of errone-

ous and confusing thinking, not unlike that of animism. That is to say, the present temper of scientific thought among the physical scientists is to view the notion of a determining cause as their predecessors once regarded animistic conceptions. They imply, if they do not explicitly say, that the conception of a cause is a rather dangerous trap for the unwary, a convenient form of *ad hoc* explanation or rationalization which ignores the more fundamental problems of science. Thus they are no longer inclined to say that such and such an event is "caused" by gravitation, or such and such a process is "caused" by this or that event. Rather, they are insisting that one must rigorously pursue the study of the sequence of events without imputing any determining, causal potency to any single point or process in that sequence. At least this seems to be the implication of much recent discussion among scientists, e.g., in relativity and by philosophers, e.g., Whitehead. Moreover, they are insisting that the clue to the understanding of events is to be sought in the organization or configuration of space-time which by reason of that structure or spatial arrangement gives rise to events as energy transformations. It is not a magical, prepotent cause but the very constitution of the universe which patterns or molds energy transformations into the events we seek to understand.

If we are to gain some insight into this remarkable development, we should hark back to the situation in which the principle of causation found its early application. In the study of the movement of the planets as in the study of the movement of particles and bodies, the astronomers and physicists were concerned with the action, reaction, and inter-action of essentially similar, if not identical, bodies or particles. This meant that for the purpose of their investigations and experiments they could ignore any differences of structure and function in the causal antecedent or in the particle or body being acted upon. Thus, if effect C (a resultant motion) appeared when A (a ball) acted upon B (a second ball), both being similar particles or bodies, the inference was clear that C was caused by A and all efforts should be focussed upon revealing the nature and action of A as the determining causal agent. This was peculiarly appropriate to the study of motion involving purely quantitative relationships.

The great success attained by this formulation and the methods it fostered, as we have already remarked, gave the principle of causation an enormous prestige which naturally enough has influenced investigators in all other fields. But mark what happened when the students of biology and the social sciences took over from astronomy and mechanics the concept of causation and as much of the methodology as they could assimilate and began to study their processes and events. Instead of similar and uniform particles or bodies

which could be treated as identical except for quantitative differences such as motion and mass, the biologist and social scientists were studying the behavior of complicated and many-functioning organisms which were exposed to the impact of totally dissimilar structures, processes, and events. The significance of this aspect of the biological and social sciences has been scarcely glimpsed and investigators have naïvely taken over the conception of causation derived from the study of the interaction of similar or identical particles and bodies in motion.

It should be obvious that to assume a causal relationship in biological and social events and to seek for causes or causal agents is to ignore the crucial rôle of the organism or structure in the production or creation of those events. A little reflection must lead to the belief that the conception of a cause, in the biological and social fields, where we find organized structures and functions, is totally misleading. If we observe events, processes, functions appearing in organisms (including man), it should be clear that those events and processes are ways of behaving through which the organization or structure of that organism is releasing or transforming energy. Moreover, it is being shown that unless the organism is prepared to react or behave, those events, processes, or activities will not be forthcoming. This means that the so-called causal agent is to be viewed as essentially a trigger action or stimulus to the stored-up energy of the organism which is expended in patterns appropriate to its structure and condition or state at the moment of impact. Instead of seeking the clue to events in a prepotent, determining "cause," we must look to the energy complex, its organization or structure and mode of energy transformation for an understanding of the event under scrutiny. In a recent paper, Pike and Chappel have stated this same view, defining a "cause" as any event which delivers energy to another event, in distinction from a limitation.[2]

The significance of this altered conception is to be seen in the shift of attention, from the so-called cause, to the energy complex or organism which gives rise to the event we are seeking to understand. The study of the energy complex, its organization and functioning, its prior history and changing physical states, become the focus of investigation and experiment. With the change in the rôle of antecedent from that of causal agent to the bearer of energy in such form that it releases energy in the organism, a new line of investigation is opened. We are beginning to discover that it is the specific quantity and quality of the energy delivered by the antecedent which touches off the organism; hence it becomes possible to substitute one

[2] Chappel, M. M. and Pike, F. H.: "The Organic World and the Causal Principle: A Criticism." *Science*, Volume 72 (1930), pp. 427–429.

antecedent event for another provided the substitute carries an energy equivalent. Examples of this are to be found in artificial fertilization, synthetic drugs, X-ray treatment of biological processes, etc. Moreover, by conditioning the organism we can substitute surrogates for the original biological stimuli, as Pavlov has shown, or render the organism immune to otherwise potent events and stimuli, such as other biological organisms (disease germs) or sexual partners (repression).

Out of the totality of events at any one place and time, only a few will operate upon a given organism. Put in another way, each organism in a given situation will selectively react to the totality of events there present, plainly demonstrating that the so-called causal agent or event is contingent upon the organism, its prior conditioning and present state.[3]

The movement away from causal formulations among the physicists has come about by a similar development wherein we find the investigator discovering that the significant factor is not the antecedent event, but rather the configuration in space-time which exhibits the event or process he is striving to understand. In consequence we see the effort being made to study the configuration or organization as the focal point, instead of the earlier preoccupation with the attempt to identify external causes and to prove causal relationships. In place of the older concern with the search for determining causes supposed to act upon passive but receptive entities, the aim now is focussed upon the energy complex or configuration to reveal which is the central problem. The idea of a potent, determining cause which brought about the effect is now seen to be essentially mystical and animistic, a case of action at a distance. This does not mean that the search for the so-called causal antecedents is being abandoned or ignored, but rather that the investigator is viewing the antecedent as part of the total sequence or configuration (space-time) which he is studying, with especial emphasis upon the particular event in that sequence. It is appropriate here to remark that this discussion of the principle of causation is not directly related to the situation arising from Heisingberg's Principle of Uncertainty.[4]

Viewed in the perspective of historical development this turn of affairs is highly significant and interesting and its implications for scientific thought and philosophical speculation are far-reaching. The title of this paper—Causation: An Episode in the History of Thought—receives ample justification from this amazing situation

[3] Cf. the writer's paper, "The Problem of Learning," *Psychological Review*, Volume XXXIII (1926), pp. 329–351.

[4] See "The Recent Change of Attitude Toward the Law of Cause and Effect," by P. W. Bridgman, *Science*, Volume 73 (1931), pp. 539–547.

which can not be too frequently or too rigorously examined, if we are to approach the immense labor of reconstructing our ideologies and concepts to meet the requirements of present-day scientific endeavor. We have lived so long on the product of seventeenth- and eighteenth-century labors, notably in mechanics, that it will require much urging and prodding before we will actively take up the task of revising our thinking, particularly since the acceptance of mechanics and causal conceptions is not yet universal even among the scientists.

This leads to the question which has been troubling the writer for some time. With biologists and the social scientists eagerly embracing the principle of causation as the very hall-mark of scientific rigor through which they can escape from animism and vitalism and unchecked theorizing, it seems likely that for years to come these investigators will be working along lines that we know now to be obsolescent. Is there any way of accelerating the diffusion of scientific thinking among scientists so that we may reduce this "cultural lag" in science? If anyone thinks the task here described is not difficult, let him discuss the question of causation with an economist or sociologist or psychologist, especially one who has but recently had a revelation of statistical procedure (again a bequest from statistical mechanics of an extremely valuable research instrument requiring discretion in its use). There one finds an almost passionate conviction that the conception of causation, plus statistical methods, will place the social sciences abreast of the natural sciences, meaning the natural sciences of a generation or two ago with which the social scientist made acquaintance in his high school or college days. Scarcely a hint of the revolution in thinking among physicists has filtered through to the social sciences, although some individual investigators are becoming troubled by the question of what these changes may eventually mean to their discipline. So long as social scientists cherish the concept of causation they are necessarily concerned with all manner of possible causal events and inclined to ignore the study of man and of human behavior which is the key, apparently, to social life. Moreover, they are almost obsessed with the notion of social forces in operation which produce specific effects, in direct emulation of celestial mechanics.[5]

This preoccupation with the analytical problem of the relation of two variables, as the *only* form of scientific problem, arises from adherence to the causal conception. When, as in psychology and psychiatry, the patent complexity of human behavior forbids the arbitrary formulation of a single causal agent or factor, the remark-

[5] Cf. the writer's paper, "The Principle of Disorder and Incongruity in Economic Affairs." *Political Science Quarterly*, Volume XLVII (1932) pp. 515–525.

able conception of multiple causation has been invoked. By this notion it is possible to hold on to the conception of causation and yet smuggle into the conception various factors or processes active in the organism upon which the imputed cause is believed to be operating. Thus theories of multiple causation of personality development are seriously advanced wherein endogenous bodily processes are associated with exogenous social situations as potent causes (multiple causes) of the behavior being studied.

This practice is an excellent illustration of what Bott has called the split-field method, wherein one arbitrarily separates a unified process into various factors and then proceeds to bring them together again.[6] If we were not so devoted to the causal principle we would be more ready to entertain a less artificial and clumsy theory of human behavior and our thinking would be by so much advanced. Perhaps we would be more aware of the rôle of prior experience in patterning behavior so that under the impact of a situation-stimulus the organism behaves as it has learned to respond. This view would not be inconsistent with the growing belief among physicists that what has happened to an atom or electron or any energy complex in the past is the major clue to its present behavior. Such a belief is, of course, directly in conflict with the notion of causation which ignores prior experience of the behaving entity in favor of the exclusive determining causal potency of an external factor or agency. The conception of past experience as operative in the present through the altered state or condition of the entity supplies a more illuminating and fruitful idea for scientific exploration.[7]

If we attempt to vision the future development of the social sciences along the lines now being pioneered by physics we should expect a concentration of interest upon the study of man and his behavior, upon the impact of culture upon personality, and the conditioning of the organism thereby, and upon the patterning of social life by the individual actors therein. Just as the physicist is seeking to understand the individual space-time configurations which give rise to events in place of the older statistical search for determining causes,[8] so the social scientists of the future will study the organic

[6] E. A. Bott, "Criticism and Ways of Inquiry," this JOURNAL, Volume XX (1923), pp. 253–271.

[7] Cf. the writer's paper, "The Locus of Experience," this JOURNAL, Volume XX (1923), pp. 327–329.

[8] "The great change which has come over physics in the last twenty or thirty years is due to one fact in particular, to the fact that, instead of studying the behavior of vast crowds of atoms and molecules and endeavoring, from that study, to deduce the properties of the individual, we concentrate more and more on the individual and try to deduce the probable behavior of the crowd. The newer method is, of course, the more logical one, and has been made possible by

configuration, man, and how his behavior, patterned by his experience, gives rise to the various aspects of social life we call economic, political, and social. But this shift in social science is not to be expected in the immediate future because social scientists are so engrossed with the cause and effect formula.

Here then is an opportunity for philosophy to contribute its services. We are desperately in need of a social science to replace the present body of abstract theory and conflicting beliefs and it seems clear that until the social scientists are able to encompass these newer conceptions and relinquish the older mechanical ideas of cause and effect, no real progress can be expected. So long as social science is taught and studied in terms of cause and effect and cosmic forces, and so long as our schools and colleges nurse along that tradition, the movement of intelligence must be impeded. The philosopher, as critic of ideas and conceptions, and as the prime agent in the ages-old task of emancipating human intelligence from self-generated errors and fetters, faces here an opportunity of unparalleled significance and promise.

LAWRENCE K. FRANK.

NEW YORK CITY.

TRUTH, ERROR, AND THE LOCATION OF THE DATUM[1]

Twinkle, twinkle, little star,
How I wonder where you are:
Up above the world so high,
Or in my brain, or in my eye?

DISCUSSION of the nature of knowledge has lately taken two paths: first, the attempt to describe the structure and function, the *Gestalt*, of the whole cognitive process, and second, the attempt to locate the cognitive datum with respect to the object of cognition (the light-sensum, for instance, with respect to the star which it enables one to know). The investigation of the first topic, whether by objective idealist, by radical empiricist, or by pragmatic naturalist, has confirmed the principle which I have called the innocence of the given: that knowledge is a complex sequence of judgment, interpretation, or problem-solving, and that the *givenness* of an entity, its presence in conscious experience, is therefore neither sufficient nor

two of the great discoveries of modern times—radio-activity and X-rays. Each of these has given us the power of probing into the innermost depths of matter, and, although we are still unskilled in the use of these new weapons, each has led to important progress." (G. Shearer: "The X-Ray Analysis of Organic Compounds," *Science Progress*, Volume XX (1926), pp. 450–460.

[1] Read in substance before the Pacific Division of the American Philosophical Association, Los Angeles, December, 1933.

necessary for knowledge about it.[2] As an example of such analysis, singularly complete and credible, I shall refer to Mr. Harold Chapman Brown's account of mind as composed of organized "action-patterns," implicit and explicit responses and counter-responses, characteristically flavored in consciousness by the "kinesthetic halo." Knowledge, according to this "James-Lange" sort of theory, never consists "in a direct awareness of the sensum," but "in the repertoire of possible actions that can be set off by any sensum" and in the *feel* of such actions.[3]

On the second topic, the relation of datum and object, the most venerable doctrine is that of psychophysical dualism, according to which the datum is composed of an immaterial stuff with *no* spatial locus. The theory which I shall call physical dualism, on the other hand, holds that the datum is located in the nervous system of the percipient, while the theory which I shall call physical monism holds that it is located on the surface of the perceived object. The typical doctrine of the first sort is the Cartesian epistemology maintained today by Mr. Pratt and Mr. Lovejoy; of the second, the "under-the-hat" theory of Mr. Sellars[4] and Mr. Russell; of the third, the new realism of Mr. Alexander and Mr. R. B. Perry. Now, it is my thesis that the description of the form and course of knowledge which is the result of the first sort of epistemology has a profound significance, still imperfectly appreciated, for the determination of the relation of datum and object which is the purpose of the second sort of epistemology. This is so, not, as is frequently suggested, because the former obviates the latter type of inquiry, and even less because it points to an easy conclusion, but because it vitiates almost all of the arguments which the sundry parties to the latter have brought against each other, and puts the question on a different plane from that of the *a priori* where it is usually meditated.

The party of psychophysical dualism, for example, has largely relied upon a conviction, like Mr. Barron's, that "introspection *indisputably shows* us that . . . mental states . . . are not identical with objects of the physical or logical orders," or Mr. Pratt's that

[2] "The Innocence of the Given," this JOURNAL, Vol. XXX (1933), pp. 617–628. I do not mean that the opinion is unanimous. It has its antithesis in the tradition represented by Mr. A. E. Taylor, that "knowledge, so far as it really is knowledge, is immediate," is "vision." (*Proceedings of the Aristotelian Society*, 1928–1929, p. 30.)

[3] H. C. Brown, "Mind—an Event in Physical Nature," *Philosophical Review*, Vol. XLII (March, 1933), pp. 130–155. I quote pp. 143 and 142. The notion of a "James-Lange" theory of knowledge I borrow from J. F. Dashiell, "A Description of Thinking," *Psychological Review*, Vol. XXXII (1925), pp. 54–73.

[4] R. W. Sellars, *The Philosophy of Physical Realism*, p. ix. Mr. Sellars uses, but disclaims having invented, the phrase "under-the-hat."

the identification is "*clearly seen* to be nonsense."[5] I have elsewhere tried to show that such convictions, like some more complex and special arguments of Mr. Lovejoy, suppose that the conscious content, by its mere presence, delivers far more of a cognitive account of itself than it really can.[6] For the present, I shall confine myself to the issue between the physical dualist and the physical monist, throwing additional light only incidentally on the argument of psychophysical dualism. The essence of the argument against epistemological dualism, psychophysical or physical, is that if the cognitive datum were other than the cognitive object, as the dualist asserts, then true knowledge would be impossible. The essence of the argument against epistemological monism is that if the cognitive datum were identical with the cognitive object, as the monist asserts, then false opinion would be impossible. The arguments depend, respectively, on the assumptions that a thing can not be known unless it is consciously given, and that a thing can not help being known if it is consciously given. These assumptions, which would be correct enough if knowledge were pure contemplation, are equally groundless if knowledge is essentially a sequence of interpretative attitudes.

Since the whole question of even physical dualism versus physical monism is much too large for this occasion, I shall first indicate only very slightly the frailty of the monist's argument against the under-the-hat theory, and then give somewhat greater attention to the frailty of the dualist's argument against the theory of direct realism. The disproportion must be permitted partly because I have already defended *in extenso* the under-the-hat theory,[7] partly because the argument against dualism is in principle the same as the *a priori* argument against any form of realism and requires prolonged research in the theory of meaning and conception,[8] and partly because there is already current a mistaken belief that epistemological dualism has gained heavily by recent discussion.

The very backbone of the "revolt against dualism" is, as Mr. Lovejoy says, "the familiar Berkeleian and neo-realistic argument that if data were other than their *cognoscenda* the latter could never be known." Mr. Hoernlé thus avers that "the copy theory of knowledge" is "utterly incoherent and self-contradictory;" Mr. Joad that if "we can not know reality directly, . . . we can not know reality at

[5] J. T. Barron, *Elements of Epistemology*, p. 158; J. B. Pratt, "The New Materialism," this JOURNAL, Vol. XIX (1922), p. 337. The italics, in both cases, are mine.

[6] "The Innocence of the Given," *loc. cit.*, pp. 624–627; "On Having Ideas in the Head," this JOURNAL, Vol. XXIX (1932), pp. 617–631.

[7] "On Having Ideas in the Head," *loc. cit.*

[8] This topic is further pursued in "The Innocence of the Given," p. 621, and in "The *A Priori* Argument for Subjectivism," *The Monist*, Vol. XLIII (1933), esp. pp. 190–199.

all;" Mr. Dewey that it is an "insoluble problem . . . how a subjective experience can beget objective knowledge;" and Mr. Whitehead that without "an objective content, there can be no escape from a solipsist subjectivism."[9] To oppose so much eminent opinion, it must suffice us to notice that the real source of the "solipsist subjectivism" is not the principle that the cognitive datum is not identical with the cognitive object, but the principle that there can be no knowledge unless the datum *is* identical with the object; and it is the latter principle which is false. It is incompatible, in the first place, with the discovery that the business of knowledge is not to contemplate or contain its object as a mirror reflects or contains a face, but rather to connect with and control its object as a gear meshes with a pinion or as a harness fits a horse. It is incompatible, in the second place, with the convictions even of the epistemological monists who use it. No serious philosopher dares deny that his immediate experience at any moment is an inconsiderable fraction of the world which he supposes he knows about. If Mr. Sellars, for example, could not, on the basis of sensa which occurred only under his hat, make inferences about, let us say, the outside of his hat, then the neorealist could not, on the basis of sensa which occurred on the outside of Mr. Sellars's hat, make inferences, as he claims he can, about the inside of the hat. He would, indeed, as Mr. Lovejoy says, fall "into a more than Berkeleian subjectivism,"[10] for the principal argument which the direct realist used against dualism is, ironically enough, the same argument which the execrated mentalist used against all realism. In the long run, no doubt, the most effective reply to the *a priori* argument against dualism will be the calm development, in the fashion of Mr. Brown and Mr. Sellars, of a positive dualistic theory. When the dualist has told how every iota of the experience which we *call* knowledge must result from the psychophysiological conditions asserted by his hypothesis, it will be obviously perverse to reiterate doggedly, "But your theory makes knowledge impossible." On the contrary, it makes knowledge inevitable. If it does not make it infallible, as is frequently complained, then so much the better for the theory, because, in point of empirical fact, knowledge is *not* infallible.

The theory of epistemological monism loses much of its lure when

[9] A. O. Lovejoy, this JOURNAL, Vol. XXIX (1932), p. 348; R. F. A. Hoernlé, *Idealism as a Philosophy*, p. 65; C. E. M. Joad, *Introduction to Modern Philosophy*, p. 21; John Dewey, *Essays in Experimental Logic*, p. 71; A. N. Whitehead, *Process and Reality*, p. 231.

[10] *The Revolt Against Dualism*, p. 50. Mr. Pratt argued similarly in *Essays in Critical Realism*. The fundamental importance of the point is somewhat obscured by Mr. Lovejoy's and Mr. Pratt's conclusion that all knowledge is an "anomaly."

we have noticed that the transcendence of the object would not make knowledge impossible, and that monism can not dispense with a transcendent object. On the other hand, monism has the advantage of embodying an ineradicable human prejudice, and the same principle which freed dualism of the charge that it can not account for true knowledge, frees monism of the charge that it can not account for erroneous opinion. "The argument from error" is too familiar to require enlargement. "If in perception the object is literally present," asks Mr. Rogers, "what sense attaches to the claim that some of our percepts are illusory?" [11] The question plainly assumes, I believe, that "literal presence" must constitute or suffice for true knowledge of what is present. This assumption is in the first place incompatible with our analysis of knowledge. It is, in the second place, no proper part of the monistic theory, which maintains, not, as Mr. Morris accuses neo-realism, that "givenness is as such knowledge," but only the quite different thesis that the *thing* which is given is customarily the thing which is also known.[12] (Conversely, our principle that "there is no immediate knowledge" means not, as is so easily supposed, that the object can not be immediately present in knowledge, but only that the knowledge of it does not consist in its immediate presence.) The assumption, in the third place, can be no proper part of any serious philosophical theory, for every philosopher must ultimately suppose it possible to be in error about what is given—a subject on which, as Bradley said, "there is no agreement, and little more than a variety of conflicting opinions." [13] The epistemological dualist, to go no further, supposes that the *monist* is mistaken about the given.

Merely general stricture on the anti-monistic argument, however, requires the filling and effectiveness obtainable only from specific application to some popular varieties of the argument. These I shall speak of as the arguments from mistaken identification, from the temporal displacement of the datum, and from the spatial displacement. *Prima facie,* these by no means exhaust the list, but the solution of more titillating puzzles, that of the pink rats, for instance, must be left partly to the reader's ingenuity and partly to other occasions.

The argument from mistaken identification is the simplest. It supposes that an entity can not be consciously present without our knowing *of what kind* it is. A man in the dusky woods, it is ob-

[11] A. K. Rogers, in *Essays in Critical Realism,* p. 127.

[12] C. W. Morris, this JOURNAL, Vol. XXVIII (1931), p. 122. The distinction seems a treacherous one. Cp. C. I. Lewis, *Mind and the World-Order,* p. 135, and "Experience and Meaning," *Philosophical Review,* Vol. XLIII (1934), p. 135.

[13] F. H. Bradley, *Essays on Truth and Reality,* p. 201.

jected, "sees a bear" where actually there is only a stump. The explanation is, of course, that although the monistic theory does require that in such circumstances the man is immediately aware of an object which is actually a stump, it does not require that the man be cognitively aware *that* the object is actually a stump. "Objects," Mr. Lewis reminds us, "do not classify themselves and come into experience with their tickets on them."[14] If, as in this case, certain abstract elements of one object (the stump) are really similar to characteristic elements of another object (a bear), the monistic hypothesis implies that the givenness of the stump should sometimes instigate an interpretation-sequence appropriate to, that is, learned from or learned for, a bear.

The argument from mistaken identification is important because in its transparent simplicity it is the type of all the arguments from error. More impressive are the arguments from what Mr. Mackay has called "the displacement of the datum."[15] These assume that if the cognitive object were consciously present, we must know *when* it is and *where* it is, or, conversely, that we do know just when and where are the data which *are* consciously present. With respect both to time and to space the arguments are of two varieties. The first asserts a disparity between the supposed location *with respect to one another* of the cognitive data and the location with respect to one another of the cognitive objects, and is exemplified by reference to the bent stick, the elliptical penny, the man behind the mirror, and the fact that, as Mr. Strong complains, "in the case of the stars . . . we perceive simultaneously events that are really years and even centuries apart."[16] The second asserts a disparity between the location *with respect to the percipient organism* of the datum, and the location with respect to the organism of the object, and is exemplified by Mr. Pratt's conviction that a "whole series of physical and physiological processes . . . takes place between the stimulus-event and the percept," so that it is absurd to "identify this stimulus-event with the percept."[17]

For the problem of the supposed temporal displacement to be debatable at all, one must make certain assumptions: (1) there is a physical world-continuum in which every event is univocally located in three dimensions of space and one of time; (2) this continuum

[14] C. I. Lewis, *op. cit.*, p. 88.

[15] D. S. Mackay, this JOURNAL, Vol. XXIX (1932), p. 253. His theme is congenial: that it does not matter greatly *where* the datum is, since its use and not its locus makes it cognitive.

[16] C. A. Strong, *Essays in Critical Realism*, p. 227.

[17] J. B. Pratt, *Adventures in Philosophy and Religion*, p. 47. Examples could, of course, be multiplied indefinitely. They all impute to the new realist a psychological and physiological naïveté incommensurate with the actual history of his opinions.

admits of strict or Newtonian simultaneity; (3) there is a recognizable relation, which we can call experiential co-presence, among all the events given in what is ordinarily called a momentary field of consciousness; (4) there is a recognizable relation, which we can call psychophysical correlation, between any field of co-present experience and some moment of activity in a percipient organism which conditions the givenness of that experience.

Suppose now that at nine o'clock of a May night I am sitting on the porch and taking cognizance of the swaying blossoms of the wisteria and, in the remote reaches beyond, an eruption of incandescent hydrogen on Antares. By the usual assumption, which I shall not dispute, my cognitive *objects* (the real sway of blossoms and the real eruption) are not physically simultaneous with one another, but one antedates the other by many years. By hypothesis, on the other hand, my cognitive *data* (the blossom-sensum and the star-sensum) are experientially co-present with one another. These two propositions, we all know, the dualist believes to imply that the cognitive object and the datum have disparate temporal predicates and so, unless one event can occur at two times, to imply the falsity of the monist's belief that the datum is existentially identical with the object. On the contrary, I submit, when the argument is thus made explicit, it appears that the two propositions imply such conclusion only if conjoined with the further premise that *experiential co-presence implies physical simultaneity*, i.e., that all the elements of one conscious field have *eo ipso* the same date.

The other form of the time-lag argument relies on the fact that, by the usual assumption, the cognitive objects, in this case the blossoms and the eruption, are not physically simultaneous with the organic activity which conditions their perception, for they antedate that activity, one by a fraction of a second and the other by many years. By hypothesis, on the other hand, the cognitive data, the blossom-sensum and star-sensum, are psychophysically correlated with that activity. It is evident that the conjunction of these two propositions implies that object and datum have disparate temporal predicates if, and only if, they are further conjoined with the premise that psychophysical correlation implies physical simultaneity: in other words, that the date of the perceptum is *eo ipso* the date of the perceiving.

The proposition either that experiental co-presence or that psychophysical correlation implies physical simultaneity is a possible hypothesis, but the proof of either must depend upon a prior proof of epistemological dualism; the proof of dualism can not depend upon it. In the first place, neither proposition is tautologous or self-evident. We often mean by "now" a collection of events ex-

perientially co-present. We also often mean by "now" the collection of events operationally discerned to be physically simultaneous with a percipient activity. But that things which are "now" in one sense must be "now" in the other is a problematic material hypothesis.

In the second place, neither proposition, as a material hypothesis, is an implicate of the physical description of the four-dimensional continuum of nature, or of the definition (if there is any) of physical simultaneity. Astonishing as it may be, physical science and physical common sense have never been concerned to locate the consciously given, either in whole or in part, with respect to the space-time order. The hypotheses of the epistemologist need not in any case play second fiddle to those of physics or common sense, but in this respect, it happens, the stage is clear for them.

In the third place, the assumption of either proposition is specifically discouraged by our analysis of knowledge. The given is noncommittal as to its location, if it has any, in the four-dimensional continuum. "It does not come with labels on it." Especially, it does not come with a *date-stamp* on it, like Chase and Sanborn's coffee.

There is no contradiction, therefore, either with itself or with the apparent facts, in the monistic hypothesis that the elements given to my consciousness, whether I perceive a star or recollect the scenes of my childhood, are literally occupants of point-events separated from each other and from the percipient activity by which I ordinarily date the "present," not only by many miles but also by many years. If the justification of the hypothesis seems to require sophisticated analysis, it must be remembered that the same analysis is requisite to the justification of its contrary. And if the decisions involved in it seem remote from common sense, it must be remembered that every epistemological theory must eventually explain how the experiential order does or does not link into the physical time-order, and that at this point any theory must transcend common sense.

The examination of the argument from the temporal displacement, which occurs in only one dimension, furnishes the paradigm of an analogous treatment of the less spectacular but much more difficult problem of the spatial displacement, which occurs in at least three dimensions. To name only two examples, it is argued, for instance, that a mirror-sensum and the face-sensum which is "behind" it, or the two stick-end sensa which are "displaced" with respect to one another (because the stick is half submerged in water), can not be respectively identical with the objects which they enable to be known, because the real face is not behind the real mirror, and be-

cause the real submerged stick-end is not displaced from the line of the unsubmerged stick-end. These arguments manifestly presuppose that detailed relations of experiential juxtaposition can be infallibly read off from the consciously present, and that all things thus found to be experientially juxtaposed in an order which we call, say, *"N,"* must *ipso facto* be physically located in an order which we also call *"N."* Like the premises of the more special argument concerning the temporal displacement, this generalized premise is certainly not self-evident. We often mean by "straight," for instance, a certain abstract type of experiential juxtaposition, and we also often mean by "straight" an operationally defined set of physical locations. But that what is "straight" in one sense is necessarily "straight" in the other is not an *a priori* tautology, but a part of the material hypothesis whose truth we are questioning. Like our more special premise, also, this generalized premise is warranted neither by the scientific description of nature, which has rather less to say about the spatial than about the temporal correlation of the consciously given with the world-continuum, nor by our analysis of knowledge, which finds that the given is rather more inscrutable with respect to its place than with respect to its date—so inscrutable that the majority of philosophers still assert as a truism that it has no *place* at all.

The preceding discussion, as even the most sympathetic reader may surmise, has in one respect drastically simplified its problem. Granted that the apparent displacement of the datum can in principle be accounted for by the fact that it is possible to be in error about the constitution of the conscious content, surely there must be *something* to account for all men's erring, in the same special way, concerning such a thing, for instance, as the date of a star-gleam. I hasten to admit that there is something, and I name it, temeritously, "perspective." The constitution of the conscious field, being conditioned by a practical and local organism, must, on the monistic hypothesis, be a resultant of two components: it must be permeated by perspectival relations which cut across and are compounded with the relations which subsist among the same elements independently of their membership in the order of consciousness. Far from it being true of the neo-realist that, as Mr. Goudge has charged, "his premises prevent him from making Kant's important distinction between the objective and subjective succession of sensa,"[18] he has made this the headstone of the corner, asserting

[18] T. A. Goudge, *The Monist*, Vol. XLIV (1934), p. 115. Mr. Goudge, following Aaron, very properly insists "that sensing is *not* a form of knowing" (p. 120). Yet he argues against both monism and dualism, it seems to me, in the conventional ways which this principle invalidates, and finally espouses an extreme dualism, after all, in the apparent belief that if sensing is not knowing, then it must be impossible to sense what is known.

that *only* this difference of succession, context, selection, or perspective, distinguishes mental content from other things. Mr. Laird and Mr. McGilvary have recently explained, in ways which I should have thought only contumacy could resist, how the theory of direct realism distinguishes the order in which events are perceived from the order in which, as we ordinarily say, they "occurred."[19] The events truly belong to both orders, but naturally we perceive them in the order in which they are perceived, and naturally, by reason of the inscrutability of the given, it may be a laborious enterprise to separate this transverse order from that of their occurrence in the cosmic continuum, especially since such duplicity of organization will result lavishly in what Mr. Pitkin (in *The New Realism*) called "projective indiscernibles." The properties of real perspectivity, exemplified either in the mistimed star or the misplaced stick-end, require study. They are not, however, a special liability of the monistic hypothesis, for the dualist must finally work out, on his small hypodermic scale, the same unfamiliar problems of experiential perspective which the monist tracks from galaxy to galaxy. Meantime, Mr. McGilvary's work in this direction seems to me superb and *bahnbrechend,* at once strengthening direct realism by developing its true implications, and beautifully clarifying such smudgy phrases as "relativity" and "perspective."[20]

This discussion was intended to bring together epistemological notions not in themselves novel in such a way that they throw new light on each other. Both the critical realist and the neo-realist, for instance, have at times cited the judgmental component of perception to refute the criticism that their doctrines are incompatible, respectively, with true and with erroneous perception. Yet neither party, apparently, has appreciated the nature and identity of the two defenses, and each has continued to belabor the other with arguments

[19] John Laird, "The Obsequies of Realism," *Philosophy,* Vol. VII (1932), esp. pp. 204–205. E. B. McGilvary, "A Tentative Realistic Metaphysics," *Contemporary American Philosophy,* Vol. II, pp. 109–132, and "Dialectical Arguments against Relative Simultaneity," this JOURNAL, Vol. XXVIII (1931), pp. 421–435. I confess to my shame that most of my essay was written, and read, while I was ignorant of the former work of Mr. McGilvary's. My distinction between experiential co-presence and physical simultaneity seems identical with his between perceptual and physical simultaneity, and at some other important points our expositions are, I think, very similar. Mr. Laird, on the other hand, makes more use than Mr. McGilvary of the principle that "direct apprehension" need not be "*infallible* apprehension."

[20] See especially his "Perceptual and Memory Perspectives," this JOURNAL, Vol. XXX (1933), pp. 309–330. His distinction between what the thing is *in* itself and what *by* itself, and his consequent doctrine that relative or perspectival characters are none the less *in* the object, and neither in the eye of the beholder nor gaumed over the total situation, I hope will prove of epochal effect.

in violation of the principle on which his own philosophy depends.[21] Our results, although nominally negative, are of affirmative effect. First, they would lift an apparent onus of self-refutation from metaphysical realism, which has been reducing itself to absurdity by claiming concurrently that dualism "makes knowledge impossible" and that monism is "exploded." Second, they suggest that if neither pure dialectic nor mere inspection of one's experience can ever disclose how the consciously given is related to the world of nature, we must pursue the question no longer in isolation, but as part of a scientific theory of reality, capable neither of demonstrative proof nor of demonstrative disproof, but chosen for its all-round inductive adequacy. Finally, they are an admonition to the idealists, pragmatists, and even naturalists who asseverate nowadays that their doctrine that mind and nature are one seamless cloth renders the epistemological problem otiose, either unnecessary or impossible. On the contrary, I think, it first makes the problem profitable. As for its necessity, to say that knowledge, like a thunder-storm, is a part of nature, is not to evade but to require its analysis and explanation. As for its possibility, on the other hand, I hope to have shown that the epistemologist is embarrassed, not by a dearth of solutions, but by a wealth of them. This, of course, is a real difficulty, but it has not been shown more than the scientific commonplace that any body of evidence is formally compatible with a plurality of hypotheses. There is a flavor of mere vengeance in calling a question "meaningless" or "unreal" because it is unanswerable, but it seems even less proper to call it "unanswerable" because, so far, it can be so adequately answered in so many different ways.

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BOOK REVIEWS

Geschichte der Philosophie in Einzeldarstellungen. Edited by GUSTAV KAFKA. 37 volumes.[1] Munich: Ernst Reinhardt. 1921–1933.

The series of volumes edited by Gustav Kafka and entitled *Geschichte der Philosophie in Einzeldarstellungen* deserves notice

[21] Mr. Sellars, for instance (*op. cit.*), recognizes the innocence of the given and that it invalidates the familiar arguments against his epistemological dualism, but not that it equally invalidates his arguments against epistemological monism.

[1] No. 1. *Das Weltbild der Primitiven. Eine Untersuchung der Urformen weltanschaulichen Denkens bei Naturvölkern:* F. GRÄBNER (173 pp.); No. 1a. *Das Weltbild der Iranier:* O. G. v. WESENDONK (354 pp.); No. 2. *Indische Philosophie:* O. STRAUSS (286 pp.); No. 3. *Die Philosophie des Judentums:*

at least as a significant episode in the writing of the history of philosophy. No attempt of like proportions has ever been made, and yet the size of the undertaking is by no means its chief distinction. Its scope and method also indicate an advance toward a more adequate history of philosophy. The series is, for one thing, a collective work to which twenty-six scholars have contributed, and one which bears witness to a remarkable community of understanding. The history of philosophy is not viewed here from the vantage point of individual erudition and insight, but from a common plateau to which German critical scholarship has attained. It is true there is a defect involved; some of the volumes almost seem written according to a standard recipe. Interpretive genius is often missing; but, on the other hand, there is unwonted comprehensiveness and objectivity toward all but the most recent period.

As to the common understanding pervading the series, two traits which apparently have been guiding principles of interpretation deserve special notice. First, the systems of philosophy described are related to the broader movements of thought and culture in which they participated; and secondly, the intellectual biography of individual philosophers is given fuller attention than in most academic histories of philosophy. These two traits may seem to contradict each other, for it is difficult to do justice both to gen-

J. GUTTMANN (412 pp.); No. 4. *Die Philosophie des Islam in ihren Beziehungen zu den philosophischen Weltanschauugen des westlichen Orients:* MAX HORTEN (385 pp.); No. 5. *Chinesische Philosophie:* H. HACKMANN (406 pp.); No. 6. *Die Vorsokratiker:* GUSTAV KAFKA (164 pp.); No. 7. *Sokrates, Platon u. der Sokratische Kreis:* GUSTAV KAFKA (154 pp.); No. 8. *Aristoteles:* GUSTAV KAFKA (203 pp.); No. 9. *Der Ausklang der Antiken Philosophie und das Erwachen einer neuen Zeit:* GUSTAV KAFKA und HANS EIBL (381 pp); Nos. 10–11. *Augustin und die Patristik:* HANS EIBL (462 pp.); Nos. 12–13. *Thomas von Aquin und die Scholastik:* PAUL SIMON (in preparation); No. 14. *Die Philosophische Mystik des Mittelalters:* JOSEPH BERNHART (291 pp.); No. 15. *Die Philosophie der Renaissance:* AUG. RIEKEL (193 pp.); Nos. 16–17. *Descartes und die Fortbildung der kartesianischen Schule:* BARON CAY VON BROCKDORFF (227 pp.); No. 18. *Spinoza:* BERNHARD ALEXANDER (179 pp.); No. 19. *Leibniz:* GERHARD STAMMLER (183 pp.); No. 20. *Bacon und die Naturphilosophie:* WALTER FROST (504 pp.); No. 21. *Hobbes und die Staatsphilosophie:* RICHARD HÖNIGSWALD (207 pp.); Nos. 22–23. *Locke, Berkeley, Hume:* ROB. REININGER (213 pp.); No. 24. *Die Englische Aufklärungsphilosophie:* BARON CAY V. BROCKDORFF (180 pp.); No. 25. *Die Französische Aufklärungsphilosophie:* O. EWALD (168 pp.); No. 26. *Die Deutsche Aufklärungsphilosophie:* BARON CAY V. BROCKDORFF (180 pp.); Nos. 27–28. *Kant. Seine Anhänger und seine Gegner:* R. REININGER (313 pp.); No. 29. *Fichte:* HEINZ HEIMSOETH (223 pp.); Nos. 30–31. *Schelling und die romantische Schule:* H. KNITTERMEYER (482 pp.); Nos. 32–33. *Hegel und die Hegelsche Schule:* W. MOOG (491 pp.); No. 34. *Schopenhauer:* HEINR. HASSE (516 pp.); No. 35. *Herbart und seine Schule:* G. WEISS (262 pp.); No. 36. *Fechner und Lotze:* MAX WENTSCHER (207 pp.); No. 37. *Nietzsche:* AUGUST VETTER (328 pp.).

eral cultural tradition and to the energies of the individual thinker in a single narrative. The editor has met this problem in an ingenious way: a number of the volumes are devoted to various cultural movements and traditions as such, for example, No. 9 to the closing period of ancient philosophy, No. 14 to the philosophic mysticism of the middle ages, No. 15 to the philosophy of the Renaissance, Nos. 24, 25, and 26 to the Enlightenment in England, France, and Germany, respectively. Other numbers, however, are each devoted to a classic philosopher, and in these the portraiture of an individual mind occupies the central position, surrounded nevertheless in most cases by an account of the sphere in which that mind was influential. Titles like *Augustin und die Patristik, Bacon und die Naturphilosophie, Hobbes und die Staatsphilosophie* are illustrative of this type. Thus, the different numbers supplement each other very genuinely, and though the series is called a history of philosophy in *Einzeldarstellungen,* the reader will miss one of its chief values if he treats its volumes merely as such.

In the main it is still the history of European philosophy which is again presented under the comprehensive title of *Geschichte der Philosophie,* but the first six volumes take a most welcome step in expanding the horizon. They are devoted respectively to: 1. The world-view of primitive peoples, discussed by F. Gräbner, 1a. The world-view of the Iranians, by O. G. v. Wesendonk, 2. Indian Philosophy, by O. Strauss, 3. Philosophy of Judaism, by J. Guttman, 4. Philosophy of Islam, by Max Horten, and 5. Chinese Philosophy, by H. Hackmann. It will be seen that eminent authorities have been secured for these unusual volumes.

Under the title *Das Weltbild der Primitiven* Professor Fritz Gräbner undertakes to investigate "die Urformen weltanschaulichen Denkens bei Naturvölkern." His treatment appears on the surface to be much too schematic to do justice to his varied subject-matter. His ethnological identifications of magic with the crudest cultures, of animism with agricultural and matrilinear cultures, of *Persönlichkeitsweltanschauung* with totemistic and patri-linear cultures, and finally of the higher cultures with the process of culture diffusion (or intermixture of lower cultures) are too neat to be convincing. However, the reader soon discovers that Professor Gräbner is aware of the difficulties in making such generalizations and even describes many of the primitive traits which do not fit into his scheme of classification. In opposition to Lévy-Bruhl and others, he defends causality as a category of primitive thought, and links it directly with the principles of association. He believes that the idea of substance is foreign to most primitive thought, though his evidence on this point is far from clear. A suggestive but exag-

gerated contrast is sketched between the temporal and the spatial types of primitive *Weltbild.* In this and other connections one may feel that interests of contemporary German philosophy are being read into the subject-matter, and the author's own *Weltbild* comes to the fore, when he draws the following conclusion from his survey, especially from his analysis of the effects of language structures on philosophic thought: "The development of philosophy is generally recognized to be in large part the work of the Indogermans. But this is made possible by a peculiar mental capacity, namely, the ability to see the things of the world from various points of view. For the problem, the foundation of all philosophizing, arises from this capacity; and for the grasping of problems the Indogerman was incomparably better prepared by his language habits than were other peoples" (p. 93).

The treatment of *Das Weltbild der Iranier* by Dr. O. G. v. Wesendonk has been given the number 1a, no doubt because, as the author points out, "Iran never gave rise to systematic philosophy in the times before Islam." The first three chapters are devoted to the problem of interpreting the rise of the Zoroastrian religion in its cultural context, while seven subsequent chapters discuss with admirable critical care the development of this religion, its practical and theoretic transformations, and its extensive influence upon many cultures through not only the Medes and Persians, but also the Hindus, Scyths, Greeks, Jews, Parthians, and then the Mithraists, Christians, Manichaeans, and Mohammedans. An excellent critical bibliography is included, so that the volume may serve as a handy introduction to a wide and relatively little-known province of cultural history.

The second volume, on Indian Philosophy, by Professor O. Strauss, though offering little new, is a thoroughly useful and competent compendium. It is admirably direct and specific in concisely epitomizing much of the available literature. The same qualities in a measure also characterize the third volume, on the Philosophy of Judaism, by Professor J. Guttman. It is a somewhat formal, but closely written, compact digest of systematic Judaic philosophies. After a brief introductory consideration of the Hellenistic period, the Talmudic background, and Islamic influence, the main narrative begins with Sa'adia. The more mystical aspects of both the medieval and the modern periods seem to be slighted. Sixty pages are devoted to the time since Moses Mendelssohn, ending with a fifteen-page account of Hermann Cohen, but without mention of Chassidic tendencies such as find expression in the thought of a man like Martin Buber.

The Philosophy of Islam is presented in Volume 4 by Professor

Max Horten; it is a compact volume which might be viewed as an effort toward synthesizing the voluminous contributions of the author to the study of Mohammedan philosophy. The work covers not only what is commonly referred to as "Arabic philosophy," but the philosophic work of the oriental Mohammedans as well, Persian and Indian. Professor Horten has not attempted to treat this mass of material in chronological order, but rather as a series of problems; within the frame of these problems he occasionally traces historical evolutions. The tendency, however, is to emphasize a fundamental unity of Islamic thought: the heritage of Greek thought was transformed by the Mohammedans, the so-called Aristotelians being in reality Neoplatonists, and the Platonists bearing at best only a resemblance to the Islamic philosophers who completely transformed the material derived from their Greek predecessors; and in turn the influence of Arabic thought on Christian thought as seen in the Latin Averroists is in terms and discussions which are not germane to the original philosophy. Systems and world-pictures occupy the center of Dr. Horten's discussion, with the result that the reader will frequently have difficulty disengaging the ideas proper to any particular philosopher, and he will find some problems which were investigated in detail by the philosophers of the eleventh and twelfth centuries barely mentioned, such as the topics proper to Aristotle's physics. Professor Horten's work is none the less a clear and concise treatment of an enormous field.

Professor H. Hackmann, who writes the volume on Chinese Philosophy, is the author of several excellent works on Buddhism, and the present volume is distinguished by the unusually full and informed section devoted to the philosophical history and literature of Chinese Buddhism. In view of the fact that the series as a whole stresses the modern period in treating European philosophy, it is to be regretted that this particular volume on China virtually ends with the thought of Wang Yang Ming, and devotes a scant two pages to intellectual activity since the sixteenth century, which if less original philosophically, has been so important for the contemporary critical estimate of ancient Chinese thought and culture. It is a rather one-sided and, on the whole, a rather conventional view of Chinese thought that is offered here.

The four volumes on Greek philosophy contributed by the general editor himself, Gustav Kafka (the last in collaboration with Hans Eibl), seem the most conventional and least inspired in the series. There is no gesture away from this well-ploughed field of German erudition; the crop is familiar, mediocre, and tasteless. Kafka follows "the clarity of the historical tradition" in *Die Vorsokratiker,* with no suspicion of shadows and pitfalls. With Rein-

hardt, he takes Parmenides' Way of Error as the Eleatic physics, in contrast to his metaphysics. The treatment of Plato runs *Ideenlehre, Sittenlehre, Götterlehre, Staatslehre, Seelenlehre, Naturlehre;* there is no indication that Plato wrote dialogues and not *Lehren.* Aristotle fares rather better: Kafka is appreciative as well as scholarly. The emphasis is suggested by the twelve pages devoted to the metaphysics, the twenty-seven to the *Naturphilosophie,* and the fifty-nine to the ethics and politics. The logic is prefaced by a long discussion of Aristotle's *Erkenntnistheorie,* and much is made of his "recognition of the ideality of time." The *De Anima* is treated almost entirely in terms of the immortality of *nous.* The last volume, *Der Ausklang der antiken Philosophie und das Erwachen einer neuen Zeit,*[2] is heavily weighted on the second of its topics. Philo receives thirty-four pages, and Neoplatonic theology thirty-three. Incidentally, the only non-German reference in the four volumes is to Paul Elmer More.

In *Augustin und die Patristik,* Volumes 10 and 11, Professor Hans Eibl, prefacing his discussion by arguing that theology is a form of philosophy, presents the evolution of Christian thought from Paul to the fifth century. His thesis permits Dr. Eibl not only to bring out the philosophic aspect of much that has been treated as purely theological in the discussions of God, the trinity, the soul, creation, but also to state the contribution of that theological method to questions more usually recognized as philosophic, such as the problems of methodology in general, of time, and of history. As bearing on these latter questions, the chapter on Saint Augustine himself is particularly good, but the chief contribution of the volume lies in the fact that it contains some treatment, however brief, of all the numerous important figures, Greek and Latin, of patristic times, and the processes of influence and reaction become apparent to the reader as he passes from philosopher to philosopher.

Volumes 12 and 13 on *Thomas von Aquin und die Scholastik,* announced for the autumn of 1933, have not yet reached the reviewer.

Volume 14 by Dr. Joseph Bernhart carefully analyzes the ideology of philosophic mysticism in the middle ages, traces its derivation from ancient sources at some length, and then undertakes to distinguish the several contributions of medieval authors and schools to mystic tradition. Among the many individual characterizations those of Bernard, Ramon Lull, Eckhart, and Nicolaus Cusanus stand out as particularly full and illuminating. The book offers more perhaps as an interesting survey of many factors in medieval thought

[2] This volume was reviewed in this JOURNAL by Henry F. Mins, Jr., Volume XXVII (1930), pp. 79–82.

than as an interpretation of mysticism. But no doubt it is wise in refusing to isolate the latter phenomenon.

The remaining twenty-three volumes are all devoted to European philosophy since the Renaissance. This emphasis on modernity appears to some degree in the up-to-date temper of the treatments as well as in the space allotted.

Professor Bernhard Alexander's treatment of Spinoza in Volume 18 opens with a sketch of his life, and thereafter follows systematically the historical sequence of his works, expounding them point by point in the order Spinoza followed in each. It is a clear exposition, interrupted from time to time by a digression on the history of the problem under discussion.

Walter Frost's volume on *Bacon und die Naturphilosophie,* No. 20, is fortunately on a much more extensive scale than the rest, for it is probably the outstanding work in the series. There is room in over two hundred pages on the new science for a careful study of the century of genius, refreshingly free from the time-honored legends. Frost has read the pathfinders in their own terms, not at all in the origins of their thought in the late middle ages; he gives no reference to Duhem. But he has read them carefully. The emergence of natural science in the sixteenth century he regards as primarily an inner development of mathematical thought on the one hand, and of the technical and experimental spirit on the other. He recognizes, however, the influence of ancient thought, especially of the reconstruction of Aristotle's logic into a scientific rather than a dialectical instrument. Even in experimentalists like Galileo he emphasizes the importance of *a priori* assumptions. In writing of Bacon himself he is competent and just, taking a middle of the road position on controversial points. Science progressed in spite of Bacon, not because of him, and Bacon was primarily a great propagandist and advocate; yet his method was an interesting first attempt.

Volume 21 by Richard Hönigswald on *Hobbes und die Staatsphilosophie* is also excellent. It projects Hobbes not against the usual background of Francis Bacon and British empiricism, but against Galileo and the current enthusiasm for applying geometrical analysis to all subject-matters. The exposition of how Hobbes attempted to analyze human relationship by applying the principles of the motions of "bodies" is highly illuminating, and incidentally corrects the traditional expositions of Hobbes' supposed "materialism."

Volumes 22 and 23 on Locke, Berkeley, and Hume are less stimulating. The treatment given these men is quite conventional. In fact the very cursory survey of the English Enlightenment, Volume 24, by Baron Cay v. Brockdorff throws more light on the environments, motivations, and problems of these three men. The same comment

holds true of this writer's volume on the German Enlightenment by comparison with the relatively conventional treatment of individual German thinkers. Moreover, both of Brockdorff's volumes are much superior in organization of material and freshness of thought to Oskar Ewald's treatment of the French Enlightenment. Ewald shows little sense of the controlling influence of the scientific ideal, and adopts a very Teutonic and condescending attitude toward what he calls this "*Weltansicht von unten.*"

It can not be said that the volumes devoted to classic German philosophers depart from the traditional German estimate which sets Immanuel Kant as the central figure in modern philosophy, if not of philosophy in general. But within the frame of this attitude an important shift of emphasis may be discerned. There is much less attention to the elaborate dialectic with which the case for idealism was argued than there used to be, and instead there is much more factual delineation of the human orientation and of the positions taken by each of the German thinkers in various specific matters. In fact, it is altogether less evident that the main appeal and virtue of these thinkers lies in their old-fashioned systems of idealism. The writer on Schelling notes that the "realistic tendency which repeatedly breaks through in Schelling's philosophy of nature undoubtedly is congenial to the demand for reality, which leads today to the critique of idealism." It would be misleading, however, to say that the appraisals indicate a swing from idealism to realism. Fortunately the trend of present German thought can not be summed up with such shop-worn labels. Leibniz is praised not so much for his idealism as for his many-sidedness, far-reaching ideas, and even for a lack of specialism and system. Fichte is esteemed for the qualities of power and command which his thought expresses. Of Kant it is noted that "he unites the daring enunciation of new problems with their carefully weighed solution."

In such simple and altogether human eulogies one can not help sensing a certain swing away from the mazes of traditional academic theorizing to a more universal region of perception and understanding. One finds, to be sure, much traditionalism, and yet also a note of fresh challenge in such a statement as the following from the volume on Kant: "The final, conclusive consequences have not yet been drawn from Kant's Copernican revolution. . . . Old Kant stands to this very day as the incorruptible and unshakable guardian of the narrow division which separates genuine philosophy from naturalism lacking in ideas, on the one hand, and from dreary 'Schwärmgeisterei' on the other" (p. 297).

Two double volumes particularly useful in their fullness are Nos. 30–31 by Dr. H. Knittermeyer on Schelling and the romantic school, and Nos. 32–33 by Professor W. Moog on Hegel and the Hegelian

school.[3] Here we have in each case besides a very readable and discerning epitome of what Schelling and Hegel wrote at successive stages of their development, a connected account of the vicissitudes of their ideas in the spheres of their immediate influence. Important work has been done in Germany during the last twenty-five years on the growth of Hegel's thought, and some also on Schelling and his circle. These volumes are conversant with the results.

It was a welcome thought to include accounts of Herbart, Fechner, and Lotze in the series. Both Volume 35 on Herbart and his school, and Volume 36 on Fechner and Lotze give much more adequate information about these thinkers than is readily available in the usual histories. The interpretations and the manner of presentation, however, are rather stereotyped in both cases, and the same can be said of Volume 34 on Schopenhauer. All three of these volumes stick very closely to the letter of their respective subjects. From the character of the series as a whole one might have expected a fuller use of the opportunity presented in treating these men to give some idea of the general movement and tenor of German philosophy after Hegel.

The account of Nietzsche by August Vetter (No. 37) has more life, and at least makes an attempt, if a restricted one, to use its opportunities in this respect. After a well-connected exposition, tracing the course of Nietzsche's thought in the main themes of his writings, the author undertakes at the close to define Nietzsche's significance in the development of modern philosophy. Kant, he says, had put forth the idea of autonomy in both the theoretic and practical spheres. In the field of theoretic understanding, however, he left reason in touch with the sense world, but in the practical sphere he retreated from this, and left the autonomy of the will an empty form. It was Nietzsche who undertook to develop the idea of volitional autonomy, not in a vacant transcendental realm, but in the thick of actualities. The free and good will must be a powerful will. On such ground moral philosophy encounters real issues and becomes vital again.

It was announced that the last three volumes of the series would be devoted to nineteenth-century materialism, Comte and positivism, Mill and empiricism, but in the final lists these titles do not appear. Their withdrawal is unfortunate. To devote the last ten volumes on the history of philosophy to the German "supermen" of the nineteenth century is no doubt gratifying to national feeling, but it fails not only to do justice to the thought of the last century, but also to lead up adequately to contemporary philosophical interests and tendencies.

[3] The latter have been separately reviewed by Professor Sidney Hook. See this JOURNAL, Vol. XXVIII (1931), pp. 497–500.

The well-chosen format of the series deserves to be mentioned. The volumes are of moderate dimensions, very compact and admirably provided with useful bibliographical references. They vary from an average of two hundred and fifty pages to a few double volumes of about five hundred pages in thickness, and from two seventy to ten marks in price. Roman type and attractively fresh bindings of a natural linen tone are used.

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Les Ages de l'Intelligence. LÉON BRUNSCHVICG. (Nouvelle Encyclopédie Philosophique, 1.) Paris: Félix Alcan. 1934. 150 pp. 10 francs.

In a series of six lectures given at the Sorbonne in 1932–1933, M. Brunschvicg attempts to reorient the thought of the younger generation towards a goal which is neither that of to-day nor that of yesterday. The present reviewer can not but feel that he is right in urging his students not to seek a solution of our problems in formulas which were devised for what were after all radically different times. But he is not sure that M. Brunschvicg's method would be very illuminating to people who did not already know what ends they were seeking. These lectures are so general—it might be better to say "abstract"—that they deal only with the technique of thinking, and the particular technique which M. Brunschvicg appears to believe characteristic of our age and of the mature intellect and *therefore* the best is the "functionalistic" technique of contemporary physics. This is his contribution to the criticism of the "subject-attribute logic" and, though what he says is somewhat—but not entirely—weakened by reliance on the metaphor of growth and maturity, it is a contribution worthy of diligent reflection. Since, however, our problem is not only how to reach conclusions, but what conclusions to reach—for no logic can by itself tell us from what premises to start—M. Brunschvicg has only begun to help us. This does not mean that his warnings are not well taken, but only that they are not sufficient for what one gathers to be his purpose.

G. B.

OTHER NEW BOOKS AND JOURNALS

THE MONIST. Vol. XLIV, No. 2. The Intelligibility of Sensations: *Charles Hartshorne.* The Argument for Realism: *D. C. Williams.* The Logic of Morris R. Cohen: *Homer H. Dubs.* The Operational Test of Meaninglessness: *R. H. Dotterer.* Reality and

"The Real" in Bradley: *Rudolf Kagey.* Are Particulars Constituents of Propositions? *Lucius Garvin.* The Universal-Particular Situation in Sculpture and Poetry: *M. Whitcomb Hess.* Objectivity and Change in Moral Values: *G. H. Langley.* The Problem of Evil in the Philosophy of Jonathan Edwards: *Rufus Suter.* Meyerson and the Epistemological Paradox: *Thomas R. Kelly.* Discussion—Note on Reflexive Relations: *A. Ushenko.*

MIND. Vol. XLIII, No. 171. Indication, Classes, Numbers, Validation: *A. N. Whitehead.* The Given: *J. Laird.* A Last Plea for Free-thinking in Logistics: *H. W. B. Joseph.* Nature in the Philosophy of Bosanquet: *R. E. Stedman.* Demonstration of the Impossibility of Metaphysics: *A. J. Ayer.* Discussions—On the Use of "Universe": *L. S. Feuer.* Mr. Stace's "Refutation of Realism": *R. E. Stedman* and *H. B. Acton.* A Reply to Mr. Stace's "Refutation of Realism": *V. C. Aldrich.* Mr. Stace's "Refutation of Realism": *D. C. Williams.*

PHILOSOPHY. Volume IX, No. 35. The Present Need of a Philosophy: *Letters to the Editor.* Truth and Modern Dictatorship: *I. Donsky.* Great Thinkers (II): Plato: *G. C. Field.* Change: *G. R. G. Mure.* The Psychology of Ethical Empiricism: *A. C. Fox.* Causality: *Y. H. Krikorian.* The Categorical Imperative and the Golden Rule: *E. W. Hirst.* The Hegelian Absolute and the Individual: *P. T. Raju.*

NEW SCHOLASTICISM. Volume VIII, No. 3. Scholasticism and the Kantian Aesthetic: *Albert W. Levi.* A Critique of Kantian Autonomy: *Arthur E. Gleason.* Thomistic Metaphysics: A Systematic Explanation of the Real: *Francis E. McMahon.*

NOTES AND NEWS

The next two issues of this JOURNAL (nos. 17 and 18, dated August 16 and 30) will be published as a double number and will contain a bibliography of the scholarly philosophical literature published in English, French, German, and Italian during the year 1933. As announced earlier in the year, this bibliography will hereafter be an annual feature of the JOURNAL, its purpose being to supplement the Bibliography of Philosophy now in preparation under the auspices of the American Philosophical Association for the years 1902–1932. The price of this double number will be one dollar if sold separately, but the regular subscription price of the JOURNAL ($4.00 a year) is unchanged. New subscriptions may be entered to start with this double number.

A BIBLIOGRAPHY OF PHILOSOPHY

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